RFP-1325.02 (REV. 2/97)
Previously RF-46522

CORRES. CONTROL
INCOMING LTR NO.
00600RF97

DUE DATE
ACTION

Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

APR 28 1997

97-DOE-05225

DIST.	LTR	ENC
BACON, R.F.		
BENSUSSEN, S.J.		
BRAILSFORD, M.D		
BUHL, T.R.		
BURDGE, L		
CARD, R.G.		
COSGROVE, M. M.,		
COULTER, W.L.		
DERBY, S.		
DIETERLE, S.E.		
FERRERA, D.W.		
GERMAIN, A.L.		
HARDING, W.A.		
HARROUN, W.P.		
HEDAHL, T.G.		
HERRING, C.L.		
HILL, J.A.		
MARTINEZ, L.A.		
McANALLY, J.L.		
NORTH, K.		
OGG, R.N.		
PARKER, A.		
PHILLIPS, F.J.	X	
RHOADES, D.W.		
RUSCITTO, D.G.		
SANDLIN, N.B.		
SPEARS, M.S.		
TILLER, R. E.		
TUOR, N.R.		
VOORHEIS, G.M.		
DAYTON, C	X	
SINGER, S	X	
SIDERS, M	X	

COR. CONTROL	X	X
ADMN. RECORD	X	X
PATS/T130G		

Reviewed for Addressee
Corres. Control RFP

4-29-97 DG
Date By

Ref Ltr. #

DOE ORDER #
5400.1

Mr. Tim Rehder, Manager
Rocky Flats Project
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 500, 8EPR-FT
Denver, Colorado 80202-2405

Mr. Steve Tarlton
Manager, Rocky Flats Program
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

Gentlemen:

In a letter from Steve Tarlton to me dated March 25, 1997, the Colorado Department of Public Health and the Environment provided comments on the 1996 Third Quarter Groundwater Monitoring Report. Enclosed is the Rocky Flats Environmental Technology Site's responses to these comments.

Please feel free to contact Purna Halder at 966-9718 if you have any questions.

Sincerely,

Steven W. Slaten

Steven W. Slaten
RFCA Project Coordinator

Enclosure

cc w/enc:
E. Pottorff, CDPHE
G. Kleeman, EPA
Administrative Record

cc w/o enc:
B. April, DAMEC, RFFO
G. Hill, RLG, RFFO
S. Slaten, RLG, RFFO
P. Halder, RLG, RFFO
C. Dayton, K-H
S. Singer, RMRS

ADMIN RECORD
SW-A -002810

Responses to Comments by the Colorado Department of Public Health and the Environment on the 1996 Third Quarter RFCA Groundwater Monitoring Report Received in March 25, 1997 Letter from Steve Tarlton to Steve Slaten

Initial Comments

1. [Where is the Building D&D evaluation that recommends monitoring for well 22996? It is not discussed in the IMP.] The selection of building D&D wells should be part of the DQO agenda for the coming year.

This question was responded to in question 6 of the IMP response to comments transmitted on April 3, 1997.

2. [Why was 2987 classified a plume definition well?] Initial classification of wells was based on VOC plumes; however, the ground water monitoring program under RFCA needs to address all ground water contamination. Table 3 indicates this was not an exceedance of both Tier 2 and the historic M2SD, however both ratios are greater than 1. The background M2SD of 4,355,505 ug.l appears to be in error. It would appear that the historic data exists that should be evaluated for this well. The source of the sulfate in this well has not been identified in the IMP.

Well 2987 will be reclassified as a plume extent well. In the third quarter report the well was evaluated using the decision criteria for plume definition wells, under which there was no reportable exceedance. An undetected typographical error occurred in the text, the actual M2SD for sulfate is 435,505 ug/L (not 4,355,505 ug/L). The historic data for sulfate concentrations in this well were presented in Figure 6 of the report. It is true that the source of the sulfate is not discussed in the IMP.

3. [Thallium is in the decay chain of U235 and has a half life of minutes. It is reported below the detection limit and found in blanks of all three reported occurrences. Has some QAQC step not yet been performed on this date?] Data quality control and data validation on this data is expected in the 4th quarter monitoring report.

Unstable isotopes of thallium occur in the decay chains of U-235, U-238,Pu-241, and Th-232. These isotopes have half-lifes of about 1 to five minutes. The analyses mentioned by the reviewer are performed to detect the two stable isotopes of thallium. Thallium is a naturally-occurring non-radioactive metallic element. The B qualifier for inorganics means that the analyte was detected at a concentration below the method detection limit but greater than or equal to the instrument detection limit. Data quality control is performed as part of the reporting process. Data validation is scheduled to be performed on 25% of all reported data. Currently, data validation is lagging several quarters behind the reported data.

4. [Results for well 07391 in particular have very high detection limits and other detection limits vary for the same compound.

There are several samples for which the detection limits for organics vary. This occurs because one or more analytes are out of the linear range of the method. The sample is then diluted and the detection limit calculated based on the dilution factor. Ordinarily data is reported for both the undiluted and diluted samples so that the non-detects can have low detection limits. The laboratory did not report this data for the third quarter. RMRS agrees that such high detection limits are not acceptable for nondetects and is currently working to correct the situation for future reporting periods, and also, to obtain corrected third quarter data.

5. Should wells P218389 and P219489 be reclassified as plume definition well (sic)? Report the trend of nitrate data not just the M2SD, why is nitrate being compared to background?] Table 3 lists 37713 ug/l as the background M2SD for nitrate. This is equal to 37 mg/l, well above the MCL and ground water

standard of 10 mg/l, therefore it would appear the number is a mistake. The historic M2sd for well P219489 is listed as 475 mg/l while the current value in the well is 38 mg/l; is this also a mistake? An historic M2SD id not reported for P218389. The wells in the nitrate plume need to be classified against ground water action level for nitrate.

These wells and other existing wells in the area will be evaluated and changes to the well classification will be suggested and discussed at the April 22, 1997 groundwater meeting. All inorganic constituents are compared to background values. This procedure was agreed to during resolution of the Risk Assessment Stop-Work Order in 1994. It is part of the chemical of concern selection methodology for RFETS. If the state would like to change this procedure negotiations should be initiated. Historic trends are shown for wells exceeding the historic M2SD for the well.

The background value is correct and was calculated from data in the 1993 Background Geochemical Characterization Report. Nitrate is a naturally occurring groundwater constituent that exhibits a high degree of variability. The standard deviation for the background data is high even though over 300 samples were used in the calculation. The background value is not related to the MCL. It is calculated from concentrations reported in designated background wells.

A typographical error occurred in the table and an extra zero was added. The value should have been 475,00 ug/L. The decision criteria from the IMP and discussed in the report were followed for each type of well. The criteria for plume extent wells states: *A reportable exceedance occurs if a measured concentration exceeds a Tier II action level and the background M2SD, when there are no previous historical exeedances or the M2SD of the historical concentration in the well when there have been historical exeedances of the Tier II action levels.* Following these criteria, the historic M2SD was reported for well P219489, but not for well P218389. The nitrate results for these two wells were compared to the nitrate action levels, both Tier I and Tier II as part of the quarterly evaluation.

6. [Was well P207689 sampled? It is not on the list but it was our understanding it would be sampled until the replacement well (WARP 4) was drilled.] No response is necessary. Our request for sampling this well was not made until after this sampling period.

No response necessary.

7. [Please support the historic M2SD with plotted trends of historic data. We fail to see the benefit of this number in screening data. This logic was recently inserted into the IMP and has not been discussed by the work group.] This issue has not been discussed by the IMP workgroup as of this date. We are not convinced this is a useful statistic and suggest it not be used unless and until it is justified.

This comment has been responded to in the response to comments for the IMP, question 8, transmitted on April 3, 1997.

8.. [What values are being used as uranium background in this report? It is important to look at trends in this data until the issues with these background values are resolved. Also and evaluation of impact to surface water requires total Uranium values. This issue will be brought up in our comments on the IMP.] The new calculation of these numbers is references; however, we are still waiting for answers to questions we raised about data quality in our letter of December 23, 1996 to Steve Slaten regarding "Background concentrations in Ground Water. We have been in communication with Purna Halder on this issue and are aware DOE has requested information from K-H and RMRS on this issue. Please indicate when we will receive a response.

The background uranium numbers used in the report are from draft **Background Comparison for Radionuclides in Groundwater** were attached to a letter from Steve Slaten to Steve Tarlton and Tim Rehder dated January 8, 1997. When this report is finalized, QC calculations will be performed and reported. The use of filtered or unfiltered samples for uranium and other constituents is currently being

discussed within the framework of the Groundwater Working Group and will be addressed in the final IMP. The response to the December 23, 1996 letter to Steve Slaten has been transmitted.

9. [As mentioned in the joint State/EPA letter of December 18, 1996 the historic exceedances in wells 1786 to 1386 should already be under evaluation. The current nitrate value in well 1786 is more than six times the temporary modification of 100 mg/L for surface water. The loading to surface water from this plume must be quantified. We have not yet been contacted to scope this evaluation.] We expect the consultative process to be used for this and similar problems.

These concerns will be discussed at the next Groundwater Working Group meeting on April 22, 1997. The consultative process will be used for scoping and planning all evaluations.

10. [The tier II exceedance in well 23296 triggers monthly sampling. This plume was suspected at tier I levels in the North Walnut Creek alluvium during the ALF negotiation and should already be undergoing an evaluation as to the fate of VOCs in this drainage, are they moving into surface water and volitalizing or not? Surface water samples, piesometer samples, and data needs should be assessed to identify the pathway for this contamination.] Sampling was initiated. Please report the starting and ending dates for the triggered sampling as well as what report should contain those results.

The required response to the Tier II exceedance in well 23296 was to initiate three rounds of monthly sampling. This was initiated in January 1997 and completed in March of 1997. Results will be reported in the **Fourth Quarter RFCA Groundwater Sampling Report** for all data that has been received from the laboratories.

11. The tier I exceedance in well 22896 triggers monthly sampling and, if confirmed, an evaluation of impact to surface water. Because of the location of the well this initial evaluation may be more qualitative. What geological pathway information was gained by the well, what is needed to assess the conceptual model of the plume extent and pathways to surface water in this area?] See comment above.

Comment noted.

12. [Is the methylene chloride found in well 12691 a degradation product? The VOCs of interest for a given well should be plotted to show trends. Also, it would be helpful to have at least an analytical estimate of travel time for each Performance monitoring well to predict when changes should occur.] All methylene chloride reported is below the reported detection limit, which ranges from 12 to 50 ug/l. Please deal with this in the QAQC discussion of this data.

VOCs for well 12691 were plotted in Figures 4, 7, 8, and 9of the 1996 Third Quarter RFCA Groundwater Monitoring Report for Rocky Flats Environmental Technology Site (DOE, Jan 1994). We believe the methylene chloride is likely an analytical artifact due to the elevated detection limits. The question of elevated detection limits was discussed in the response to question 4.

13. [Is there a separate decision that needs to be made for well 10294? Is there an agreement on responsibility for this plume?] We propose this be discussed in the IMP workgroup.

Proposal accepted.

Additional Comments Specific to the Report

14. Table 1 indicated that mostly VOC and nitrate analyses were completed in time to be included in this report. Less than half of the metals and radionuclide analyses were available for inclusion. This indicates a problem either with lab analysis and reporting, or that the timing of this report is overly ambitious. Was a specific time frame for this report dictated outside the DQO process (re: Feb. 27 1997 letter from Steve Slaten)? A proposal has been made to include this report in the public Quarterly

Exchange of Information Meetings. The next meeting is scheduled for May 27, 1997. It would seem the additional time would be helpful in allowing more data to be reported in a timely fashion rather than catching up half of the third quarter data in the April 3 report and waiting until the July report for most of the fourth quarter data and so on.

Proposal accepted.

15. Future submissions of this report without proper QAQC will not be acceptable for RCRA quarterly monitoring obligations. Please see our earlier comments regarding QAQC.

QAQC evaluation will be included in future reports.

16. Boundary wells are not only located in stream alluvial channels along the eastern boundary but also in colluvial and bedrock deposits. Please revise the IMP and the report language so that it is accurate.

This comment has been responded to in the response to comments for the IMP, question 8, transmitted on April 3, 1997.

17. Please include a discussion in the annual report of the potential impacts to surface water from the historic manganese, nickel, sulfate and nitrate contamination in ground water.

The 1996 Annual RFCA Groundwater Monitoring Report will evaluate all 1996 groundwater data. Historic trends will be evaluated when appropriate.